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NOTICE OF ALLOWANCE AND FEE(S) DUE

48080 7590 01/28/2009

INTERNATIONAL FLAVORS & FRAGRANCES INC.
521 WEST 57TH ST
NEW YORK, NY 10019

EXAMINER

RAMILLANO, LORE JANET

ART UNIT

PAPER NUMBER

1797

DATE MAILED: 01/28/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/753,847

01/08/2004

Danielle Lagard

IFF-75

6031

TITLE OF INVENTION: ANALYSIS OF THE HEADSPACE PROXIMATE A SUBSTRATE SURFACE CONTAINING FRAGRANCE-CONTAINING MICROCAPSULES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	04/28/2009

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

48080 7590 01/28/2009

INTERNATIONAL FLAVORS & FRAGRANCES INC.
521 WEST 57TH ST
NEW YORK, NY 10019

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Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/753,847 01/08/2004 Danielle Lagard IFF-75 6031

TITLE OF INVENTION: ANALYSIS OF THE HEADSPACE PROXIMATE A SUBSTRATE SURFACE CONTAINING FRAGRANCE-CONTAINING MICROCAPSULES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
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nonprovisional NO \$1510 \$300 \$0 \$1810 04/28/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
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RAMILLANO, LORE JANET 1797 436-181000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/753,847	01/08/2004	Danielle Lagard	IFF-75	6031
48080	7590	01/28/2009	EXAMINER	
INTERNATIONAL FLAVORS & FRAGRANCES INC. 521 WEST 57TH ST NEW YORK, NY 10019			RAMILLANO, LORE JANET	
			ART UNIT	PAPER NUMBER
			1797	
DATE MAILED: 01/28/2009				

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 996 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 996 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability	Application No.	Applicant(s)	
	10/753,847	LAGARD ET AL.	
	Examiner	Art Unit	
	LORE RAMILLANO	1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to applicant's after-final reply filed on 1/15/09.
2. ☒ The allowed claim(s) is/are 2 and 5-25.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

Claim 2. (currently amended) A process for carrying out a collection of analyte for the purpose of effecting quantitative and qualitative analysis of a volatile analyte composition encapsulated in a plurality of rupturable microcapsules each of which (a) has a rupturable polymeric wall; (b) has an outside diameter in the range of from about 0.01 microns to about 1000 microns and has a wall thickness in the range of from about 0.01 microns to about 100 microns; (c) contains from about 50% to about 97% by weight of volatile substance or solution of volatile substance; and (d) is releasably adhered to the surface of a semi-solid substrate section, comprising the steps of:

(i) providing the an apparatus ~~defined according to claim 1;~~

for quantitatively and qualitatively enabling the analysis of a volatile substance encapsulated in a plurality of rupturable microcapsules each of which (a) has a rupturable polymeric wall; (b) has an outside diameter in the range of from about 0.01 microns to about 1000 microns and has a wall thickness in the range of from about 0.01 microns to about 100 microns; (c) contains from about 50% to about 97% by weight of volatile substance or solution of volatile substance; and (d) is releasably adhered to the surface of a semi-solid substrate section, comprising:

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(a) a horizontally-situated reciprocatingly-movable horizontal substantially solid substantially planar surface located in the 'X-Y' plane associated with a driving means therefor for effecting a reciprocating motion of said substantially solid substantially planar surface at a controllable frequency ϕ or set of frequencies, $\phi_1, \phi_2, \phi_3, \phi_n$, (wherein n is an integer in the range of from 1 to about 20) for a determined period of time, θ ;

(b) substantially removably supported on said substantially solid substantially planar surface, said a hollow enclosure means having a void space surrounded by a gas-impermeable horizontally-disposed base, a gas-impermeable horizontally-disposed lid and a gas-impermeable substantially cylindrical wall extending upwardly from and circumventing said base and extending downwardly from and circumventing said lid, said lid and/or said cylindrical wall having at least one exit port means and an entry port means therethrough, said hollow enclosure means being maintained in a stable, rigid, upright configuration during operation of said apparatus and being adapted to stably contain (I) a plurality of mobile solid-state spheres and/or ellipsoids each of which has a weight of from about 1 gm to about 100 gm, a density of from about 2 gm/cc to about 10 gm/cc, an average diameter of from about 0.5 cm to about 3.0 cm[.] and a surface hardness Knoop value in the range of from about 160 to about 220 and (II) inter-leaved between layers of said plurality of spheres and/or ellipsoids, semi-solid substrate sections having laminar surfaces, each of which has adhered thereto a plurality of said volatile substance-containing rupturable microcapsules each of which has a surface hardness Knoop value in the range of from about 10 to about 20 and a microcapsule

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wall tensile strength several orders of magnitude less than the tensile strength of each of said solid-state spheres and/or ellipsoids, with the range of mass ratios of said plurality of spheres and/or ellipsoids[:], semi-solid substrate sections being in the range of from about 20:1 to about 100:1;

(c) analyte collection means located downstream from said hollow enclosure means and communicating with said exit port means thereof, consisting essentially of tube trapping means whereby analyte mixture components emitted from said hollow enclosure means during gas flow therethrough and simultaneous operation of said horizontally-situated oscillatably-movable horizontal substantially solid substantially planar surface are entrapped in said tube trapping means; and

(d) upstream from said hollow enclosure means or downstream from said analyte collection means, gas flow-effecting means for effecting the flow of gas sequentially (I) from a location upstream from said first entry port means; (II) through said first entry port means; (III) into said hollow enclosure means in a direction substantially perpendicular to the plane of said base; (IV) past each of said plurality of spheres and/or ellipsoids; (V) through said exit port means of said hollow enclosure means and (VI) into and through said analyte collection means;

(ii) placing into the void space of a said hollow enclosure means (I) layers of a plurality of mobile solid-state spheres and/or ellipsoids each of which has a weight of from about 1 gm to about 100 gm, a density of from about 2 gm/cc to about 10 gm/cc, an average diameter of from about 0.5 cm to about 3.0 cm. and a surface hardness Knoop value of from about 160 to about 220 and (II) inter-leaved between layers of said

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plurality of spheres and/or ellipsoids, semi-solid substrate sections having laminar surfaces, each of which has adhered thereto a plurality of said and a microcapsule wall tensile strength several orders of magnitude less than the tensile strength of each of said solid-state spheres and/or ellipsoids, with the range of mass ratios of said plurality of spheres and/or ellipsoids; semi-solid substrate sections being in the range of from about 20:1 to about 100:1;

(iii) engaging said driving means for effecting a reciprocating motion of said substantially solid substantially planar surface at a controllable frequency ϕ or set of frequencies, $\phi_1, \phi_2, \phi_3, \phi_n$ (wherein n is an integer in the range of from 1 to about 20) for a determined period of time, θ ;

(iv) simultaneously with the engagement of said driving means for effecting an oscillating motion of said substantially solid substantially planar surface, upstream from said hollow enclosure means, or downstream from said analyte collection means, effecting the flow of carrier gas sequentially (I) from a location upstream from said first entry port means; (II) through said first entry port means; (III) into said hollow enclosure means in a direction substantially perpendicular to the plane of said base; (IV) past each of said plurality of spheres and/or ellipsoids; (V) through said exit port means of said hollow enclosure means and (VI) into and through said analyte collection means whereby volatile substance components emitted from the microcapsules ruptured as a result of the spheres and/or ellipsoids abrading against them during operation of the apparatus are entrapped in said analyte collection means whereby volatile substance components emitted from the microcapsules ruptured as a result of the spheres and/or

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ellipsoids abrading against them during operation of the apparatus are entrapped in said analyte collection means.

Allowable Subject Matter

2. Claims 2 and 5-25 are allowed.

3. The following is an examiner's statement of reasons for allowance: the prior art of record (Brain) fails to teach or fairly suggest the step of placing into the void space of a hollow enclosure means (I) layers of a plurality of mobile solid-state spheres and/or ellipsoids each of which has a surface hardness Knoop value of from about 160 to about 220, in combination with the remaining features and elements of the claimed invention. Furthermore, the prior art of record (Brain) fails to teach or fairly suggest the step of utilizing a vacuum pump means to direct the flow of carrier gas downstream from the analyte collection means; utilizing the following algorithm to determine the intensity of the function product in the headspace as a function of time: $I = 10 \sum M_i [\cot(2\pi\phi\theta)] d\theta = 10 \sum M_i [\ln(\sin\{2\pi\phi\theta\})]$ wherein M_i is the mass of an individual steel ball, ϕ is the number of reciprocations per minute for the reciprocating shaker and θ is the time elapsed from commencement of operation of the apparatus, in minutes; and utilizing the following algorithm to determine the rate of functional product entering the trapping means: $dM/d\theta = 20\pi\phi M [\cot(2\pi\phi\theta)]$ and the amount of functional product collected in the trapping means as a function of time is in accordance with the algorithm: $\ln M = 10 [\ln\{\sin(2\pi\phi\theta)\}]$, wherein M is the mass of functional product collected in the trapping means, ϕ is the number of reciprocations per minute for the reciprocating shaker and θ

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is the time elapsed from commencement of operation of the apparatus, in minutes, in combination with the remaining features and elements of the claimed invention.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Barchas and Saeki et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LORE RAMILLANO whose telephone number is (571)272-7420. The examiner can normally be reached on Mon. to Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jill Warden/
Supervisory Patent Examiner, Art Unit 1797

Lore Ramillano
Examiner
Art Unit 1797